

TELEHEALTH'S IMPACT ON TOTAL HEALTH CARE SPENDING: INSIGHTS FROM 2020 MASSACHUSETTS COMMERCIAL CLAIMS DATA

YUE HUANG, MS; SARA SADOWNIK, MSc; LAURA NASUTI, MPH, PhD; DAVID AUERBACH, PhD

INTRODUCTION

The COVID-19 pandemic led to widespread adoption of telehealth. While this modality improves patients' access to care and increases convenience, its impact on total health care spending remains unclear. Prior research using data from before the pandemic has produced mixed results: while some data suggest that telehealth induces demand and increases total spending, other researchers have found that telehealth's effect on utilization is largely substitutive and does not lead to higher spending.

Massachusetts is one of many states that mandated telehealth coverage and reimbursements at the onset of the pandemic. While the most acute phase of the pandemic has ended, telehealth has remained an important element of the care delivery system, and understanding its effect on total health care spending is crucial to determine the appropriate regulatory and payment structure for this modality of care moving forward.

OBJECTIVES

To analyze telehealth's impact on utilization and total health care spending using Massachusetts Center for Health Information and Analysis commercial claims data. Telehealth's effect on spending hinges on several factors, including reimbursement rates, the extent to which telehealth substitutes for in-person care, and telehealth's impact on downstream services. Given that telehealth and in-person services were reimbursed at parity in Massachusetts during the study period, telehealth's effect on observed spending would largely reflect its effect on utilization.

STUDY DESIGN

Telehealth use increased dramatically in 2020, but overall utilization decreased due to restricted access to care. To isolate telehealth's effect on spending from pandemic-related care avoidance, the HPC imitated a randomized experiment by comparing the change in utilization and spending from 2019 to 2020 for patients with greater telehealth access versus those with less access but who were otherwise similar. The HPC proxied telehealth access using the share of non-mental health E&M visits conducted via telehealth from July to December 2020 by zip code using the Massachusetts All-Payer Claims database. Patients living in the lowest quartile of zip codes on this metric were deemed the low telehealth access group, while those living in the highest quartile of zip codes were deemed the high telehealth access group. Prior analysis suggested a large driver of this share was idiosyncratic to a member's primary care provider organization, which adopted telehealth to different degrees in the latter half of 2020.

To further ensure comparisons of patients in different geographic areas were clinically similar and to gain further insight into how expanded access to telehealth might differently affect patients with different health status, the HPC further categorized patients into four cohorts according to claims-based chronic disease indicators: cardiometabolic, asthma, healthy, and mental health. All patients included were adults aged 18-64 with full medical and prescription drug coverage in 2019 and 2020.

RESULTS

Exhibit 1 shows that cohort members in the low and high telehealth groups were generally similar in terms of sex, age, and average risk scores, while community income was slightly higher for those in the high telehealth group for the healthy and mental health cohort.

Exhibit 2 shows the change in ambulatory utilization for the cardiometabolic cohort. For the low telehealth group, ambulatory visits declined 14.7% (from 17.3 in 2019 to 14.8 in 2020), while utilization declined 15.3% for the high telehealth group (from 18.0 in 2019 to 15.2 in 2020). Despite higher telehealth use within the high telehealth group, this higher use was offset by a bigger reduction in in-person

visits, suggesting a largely substitutive effect. Total spending (including inpatient, ED, and drug) decreased 14.3% and 13.4% for the low and high telehealth group, respectively (**Exhibit 3**).

For the asthma cohort, the decrease in ambulatory utilization and total spending was slightly greater in the low telehealth group. For the healthy cohort, change in ambulatory utilization and total spending was similar between groups.

For the mental health cohort, utilization for non-mental health conditions decreased from 2019 to 2020 for both groups (**Exhibit 4**). However, the change in

utilization patterns for mental health visits diverged somewhat: while utilization was steady from 2019 to 2020 for the low telehealth group, the number of mental health visits grew from 15.9 in 2019 to 17.2 in 2020 for the high telehealth group (+7.6%). Combining non-mental health and mental health visits, we found that the total ambulatory utilization decreased 7.2% for the low telehealth group (from 25.8 in 2019 to 23.9 in 2020) but just 2.9% for the high telehealth group (from 29.6 to 28.7). Total spending declined 11.9% and 4.7% for the low and high telehealth group, respectively (**Exhibit 5**).

Exhibit 1. Descriptive statistics of the patient comparison cohorts, 2019

	N	PERCENT FEMALE	AVERAGE AGE	AVERAGE RISK SCORE	MEDIAN COMMUNITY FAMILY INCOME
CARDIOMETABOLIC					
Low telehealth	23,269	46.4%	50.2	2.85	\$85,432
High telehealth	29,001	47.7%	48.7	2.93	\$83,625
ASTHMA					
Low telehealth	2,923	63.7%	45.1	3.44	\$83,631
High telehealth	3,958	66.8%	43.6	3.49	\$83,734
HEALTHY					
Low telehealth	56,701	47.0%	40.0	0.56	\$85,781
High telehealth	92,193	48.1%	38.5	0.56	\$94,733
MENTAL HEALTH					
Low telehealth	7,670	67.0%	41.6	3.29	\$86,570
High telehealth	13,326	65.5%	40.5	3.00	\$96,486

Notes: Median income calculated using family income by zip code from the U.S. Census Bureau American Community Survey 5-year estimates, 2019.

Exhibit 2. Number of ambulatory visits per person in the cardiometabolic cohort for the low and high telehealth groups

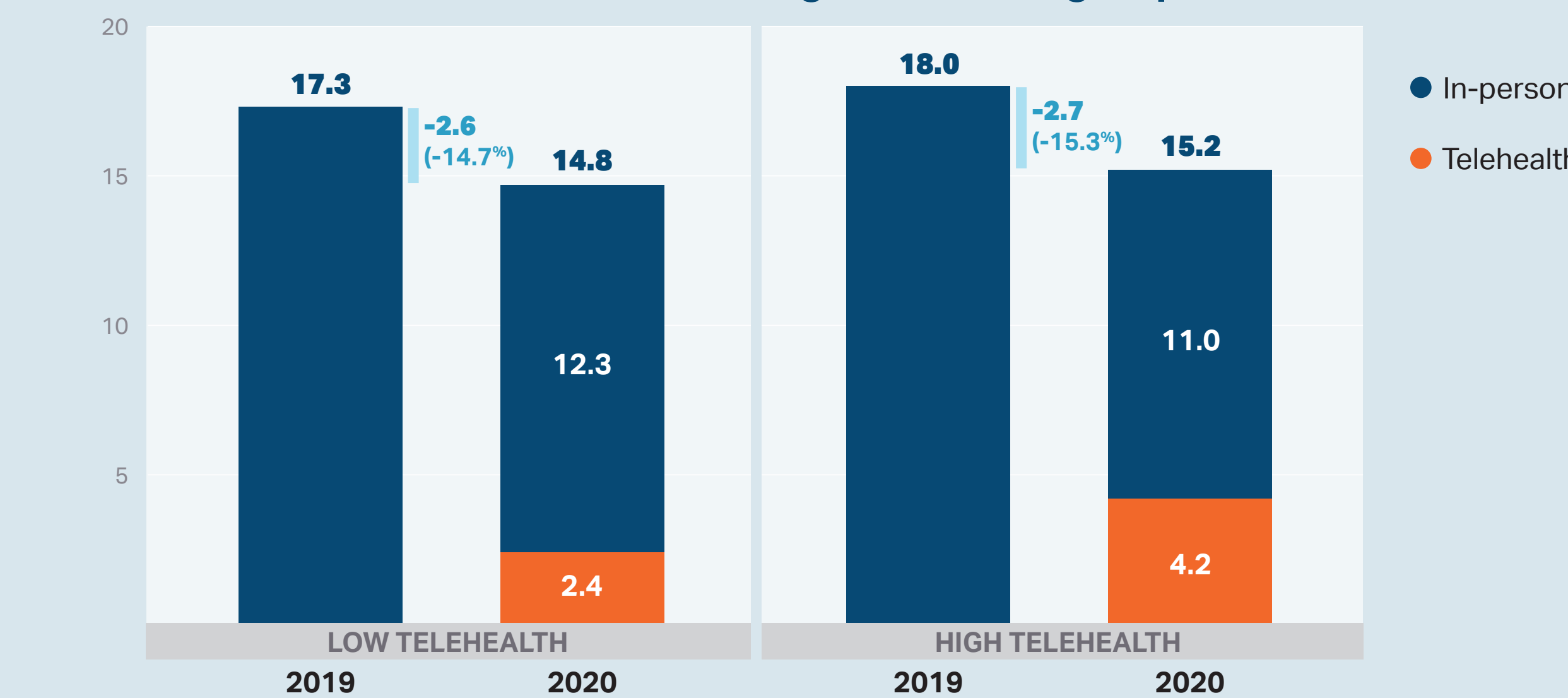


Exhibit 3. Average spending per patient in the cardiometabolic cohort

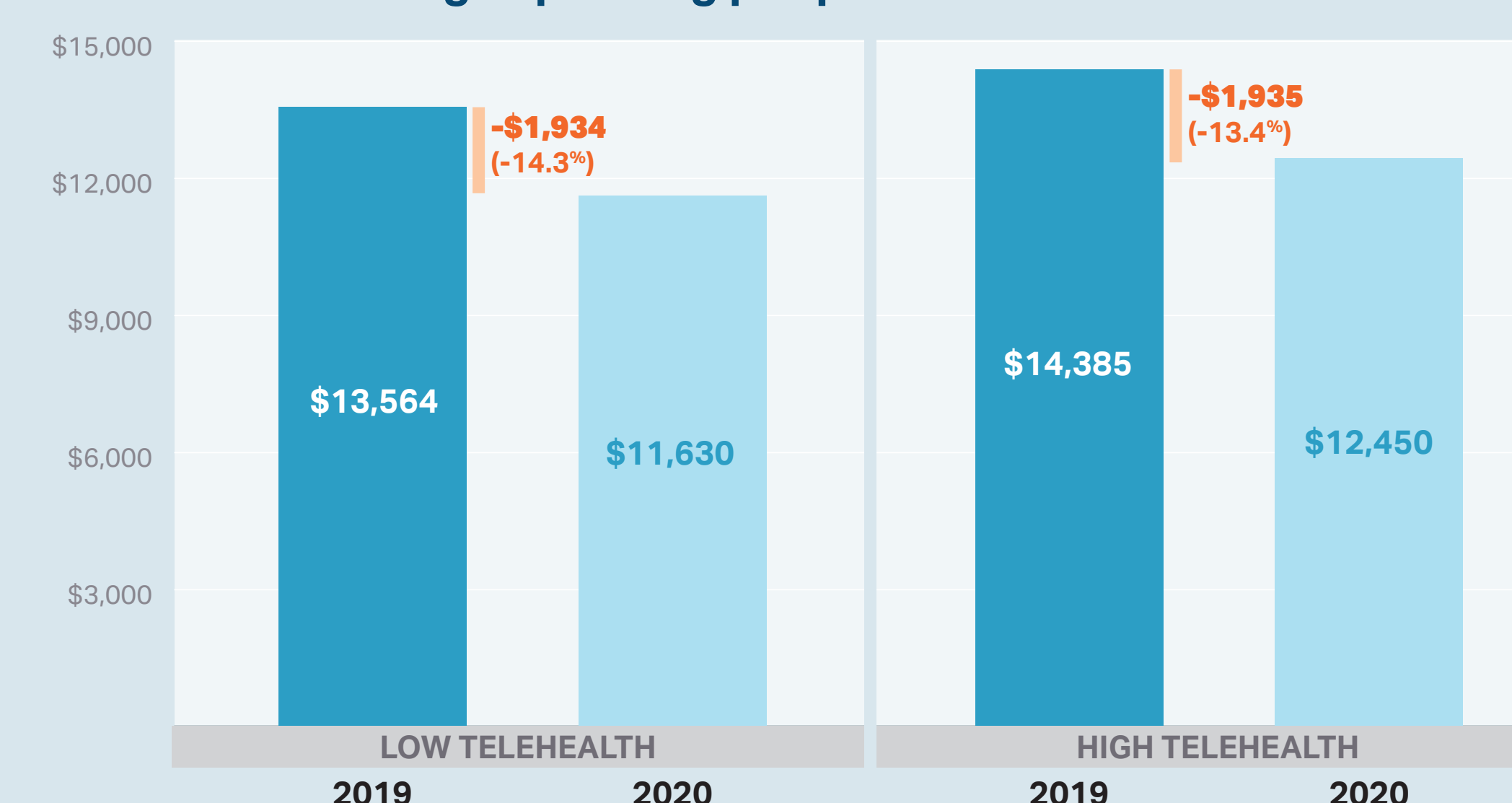


Exhibit 4. Number of ambulatory visits per person in the mental health cohort for patients in the low and high telehealth groups, 2019 and 2020

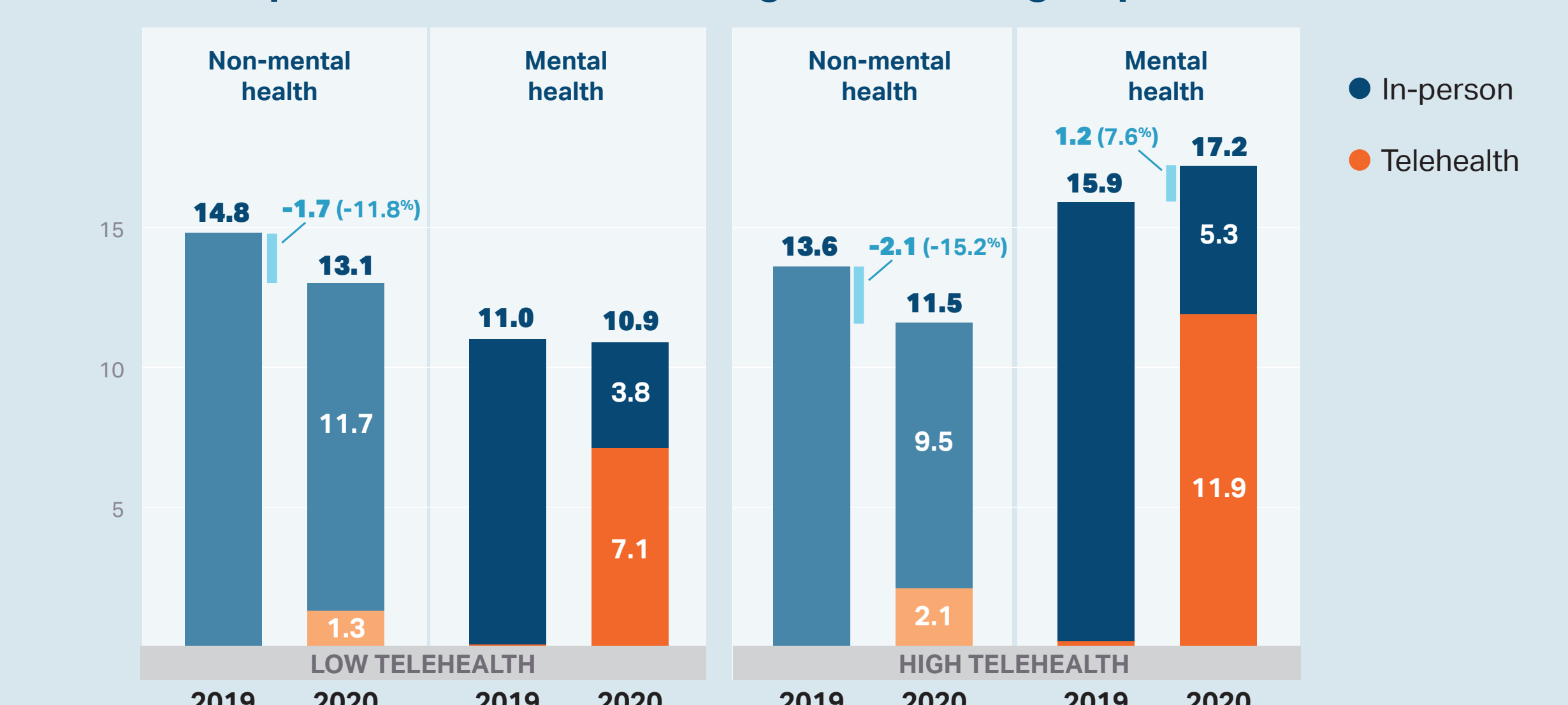
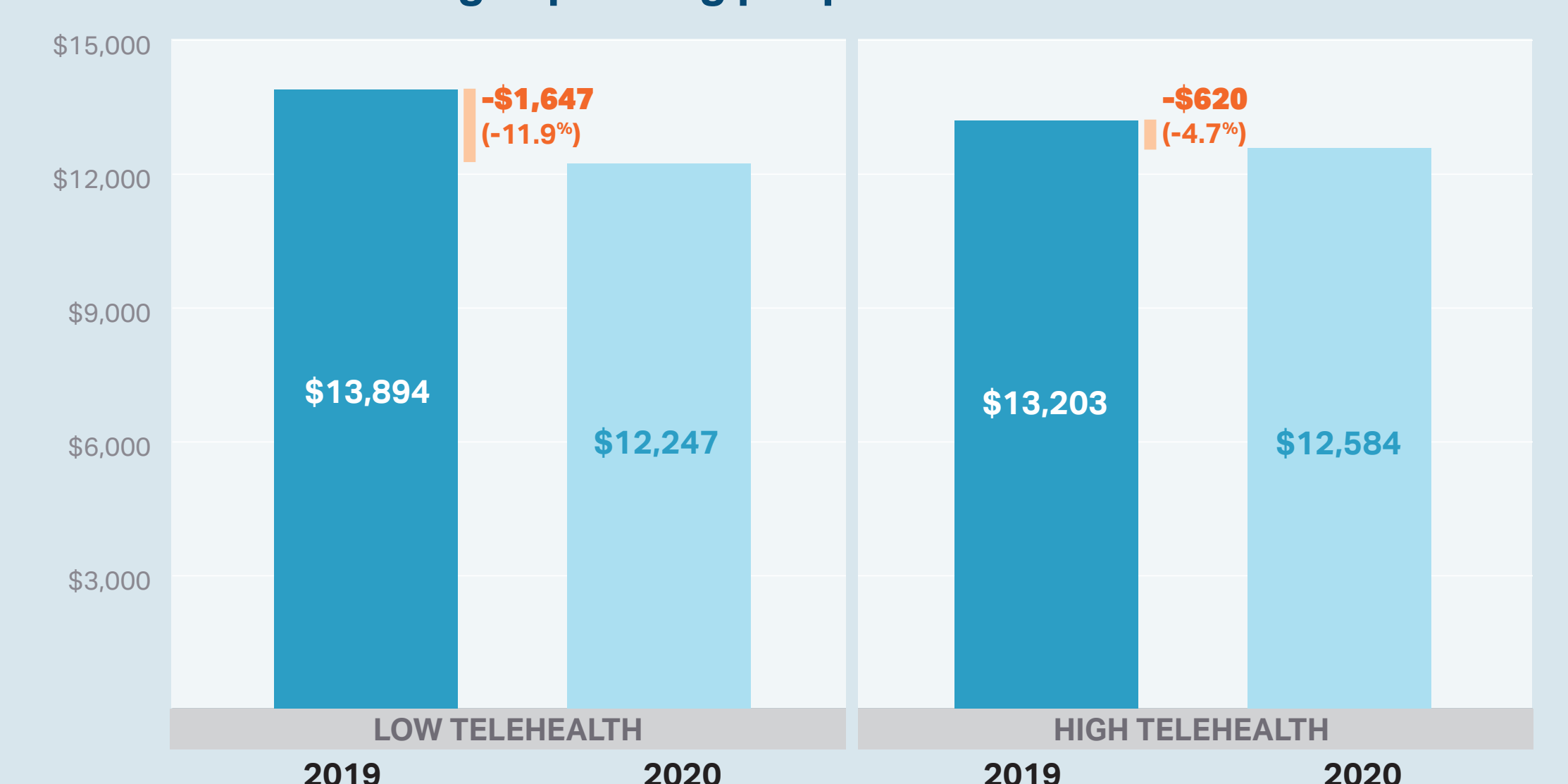


Exhibit 5. Average spending per patient in the mental health cohort



CONCLUSIONS

Ambulatory utilization and total spending decreased for all cohorts from 2019 to 2020. The extent to which utilization and spending changed was largely similar between the low and high telehealth group for members in the cardiometabolic, asthma, and healthy cohort. For members in the mental health cohort, higher telehealth access was associated with a larger increase in mental health utilization compared to the low telehealth group, but not higher total utilization.

POLICY IMPLICATIONS

Massachusetts commercial data suggests that telehealth's effect on utilization was largely substitutive and not additive in 2020 with the exception of mental health visits for those with mental health conditions. Overall, expanded telehealth use did not appear to increase total spending.

CONTACT

Yue Huang, MS
Manager
Research and Cost Trends,
Health Policy Commission
yue.huang@mass.gov

David Auerbach, PhD
Senior Director
Research and Cost Trends,
Health Policy Commission
david.auerbach@mass.gov

www.mass.gov/HPC

